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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/332,273 06/11/99 MIENTUS

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EXAMINER

IM52/0411

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ART UNIT

PAPER NUMBER

1772

DATE MAILED:

04/11/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/332,273

Applicant(s)

MIENTUS ET AL.

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 39 and 40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-38 and 41 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-38, 41 drawn to a multilayer thermoplastic film, classified in class 428, subclass 40.1.
 - II. Claims 39 and 40, drawn to a sign cutting method, classified in class 156, subclass 243.

Distinctness

The inventions are distinct, each from the other because:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by materially different process comprising steps cutting images from separate layers and joining the separate images into the multilayer image.
3. Inventions II and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process such as process of making self supporting molded article.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Mr. William C. Tritt on March 29, 2001 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-38, 41. Affirmation of this election must be made by applicant in replying to this Office action. Claims 39 and 40 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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8. **Claims 1, 4, 5, 9, 14, 16, 18-20** are rejected under 35 U.S.C. 102(b) as being anticipated by Freeman (US 4,946,532).

Freeman discloses a multilayer thermoplastic film comprising:

(1) a polyolefin core layer having a first side and a second side (See column 9, lines 65-66),

(2) a abrasion resistant first thermoplastic (See column 2, lines 59, 68) skin layer overlying the first side of the core layer (See Fig. 5; column 9, lines 9-14),
and

(3) a second thermoplastic (See column 2, lines 59, 68) skin layer overlying the second side of the core layer (See Fig. 5; column 9, lines 9-14),

a composition of the core layer being different than a composition of the skin layers, and the core layer and the skin layers being characterized by the absence of PVC. See column 10, lines 12, 33-44. A pressure sensitive adhesive overlies the second thermoplastic skin layer, and a release liner of polymeric film (See column 2, lines 12-14) overlies the layer of pressure sensitive adhesive. See Figs. 5, 6; column 6, lines 12-20. The release liner is comprised of a silicone (which by definition is polyorganosiloxane) release coating composition overlying a backing liner. See Fig. 3A; column 6, lines 21-23. The thickness of the multilayer thermoplastic film is from 0.5 or less mils to 10 or more mils, and the thickness of the core layer being up to 80-90% of the overall thickness, and the thickness of the skin layers (or concentration of the skin layers which relates to the thickness) being then up to 10%. See column 3, lines 47-52; column 4, lines 5-7.

9. **Claims 1, 2, 3, 6, 7, 8, 13, 15** are rejected under 35 U.S.C. 102(b) as being anticipated by Sugimoto et al (US 4,888,223).

Sugimoto discloses a multilayer thermoplastic film comprising:

(1) a core layer comprising at least one second polymeric material selected from ethylene-unsaturated carboxylic acid copolymers, ethylene-methacrylic acid copolymers, ionomers, and combinations thereof having a first side and a second side (See column 3, lines 6-15),

(2) an abrasion resistant first thermoplastic skin layer (See column 2, lines 52-53) overlying the first side of the core layer (See Fig. 5; column 9, lines 9-14), and

(3) a second thermoplastic (See column 2, lines 59, 68) skin layer overlying the second side of the core layer (See Fig. 5; column 9, lines 9-14),

(4) two or more intermediate layers positioned between the core layer and first or second skin layer (See column 3, line 7), and a clear top layer on the skin layer (See column 3, lines 20-27),

a composition of the core layer being different than a composition of the skin layers, and the core layer and the skin layers being characterized by the absence of PVC. See column 10, lines 12, 33-44.

One of ordinary skill in the art would easily recognize that the multilayer thermoplastic film Sugimoto is clear inherently because the film is made for packaging food products from conventionally clear polymeric materials.

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10. **Claims 1, 6, 7, 10, 11, 13, 16** are rejected under 35 U.S.C. 102(b) as being anticipated by Fukushima et al (US 4,542,061).

Fukushima discloses a multilayer thermoplastic film comprising:

(1) a polyolefin core layer having a first side and a second side (See column 4, lines 2, 12-14; column 14, lines 50-51), the core layer comprising a light stabilizer at a concentration of 500-20,000 ppm based on the weight of the core layer (See column 8, lines 3, 9, 28-29),

(2) an abrasion resistant first thermoplastic skin layer of ionomers derived from sodium or zinc and an ethylene/methacrylic acid copolymer (See column 5, lines 8-15) overlying the first side of the core layer (See column 8, lines 3-4),

(3) a second thermoplastic skin layer overlying the second side of the core layer (See column 1, lines 5-8; column 8, lines 3-4),
wherein a composition of the core layer being different than a composition of the skin layers (See column 10, lines), and coextruded core and the skin layers (See column 7, line 50) are characterized by the absence of PVC (See column 1, lines 17-24; column 3, lines 28-43).

11. **Claims 1, 4-7, 12, 13, 16-18** are rejected under 35 U.S.C. 102(b) as being anticipated by Benjamin et al (US 5,754,269).

Benjamin discloses a multilayer thermoplastic film comprising:

(1) a core layer comprising polyolefin having a first side and a second side (See column 21, lines 54, 58; column 29, lines 24, 31-33), the core layer being pigmented (See column 15, line 44; column 29, lines 1-11, 44),

(2) an abrasion resistant first thermoplastic skin layer overlying the first side of the core layer (See column 29, lines 24, 31-33), and

(3) a second thermoplastic skin layer overlying the second side of the core layer (See column 29, lines 24, 31-33),
a composition of the core layer being different than a composition of the skin layers, and the core layer and the skin layers being characterized by the absence of PVC. See column 20, lines 50-67; column 21, lines 25-67. At least one of the skin layers further comprises antiblock additive, stabilizers. See column 29, lines 44-46. An acrylic pressure sensitive adhesive overlies the second thermoplastic skin layer (See column 22, lines 17, 32-35), and a release liner of polymeric film overlies the layer of pressure sensitive adhesive. See column 29, lines 13-15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 15, 21-23, 26, 28, 29, 31, 33, 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushima et al (US 4,542,061) in view of Sugimoto et al (US 4,888,223) and Tolliver et al (US 4,896,943).

Fukushima discloses a multilayered thermoplastic film comprising:

(1) a clear thermoplastic core layer having a first side and a second side, the core layer comprising: (a) a polymer selected from the group consisting of a polyolefin having a density in the range of 0.910-0.935 g/cubic cm (See column 4, lines 2, 12-14; column 14, lines 50-51) and a second polymeric material such as an ethylene-acrylic acid copolymer (See column 4, line 10); (b) a light stabilizer at a concentration of 500-20,000 ppm based on the weight of the core layer (See column 8, lines 3, 9, 28-29),

(2) an abrasion and scuff resistant clear first thermoplastic skin layer of an ionomer derived from sodium or zinc and an ethylene/methacrylic acid copolymer (See column 1, lines 5-8; column 5, lines 8-15, 20-24) overlying the first side of the core layer, the first skin layer comprising a light stabilizer at a concentration of 500-20,000 ppm based on the weight of the first skin layer (See column 8, lines 4, 9, 28-29), and

(3) a clear second thermoplastic skin layer overlying the second side of the core layer (See column 12, lines 18, 65), the second skin layer comprising a light stabilizer at a concentration of 500-20,000 ppm based on the weight of the second skin layer (See column 8, lines 4, 9, 28-29),

wherein a composition of the core layer is different than a composition of the skin layers (See column 7, lines 31-56), the skin layers have the same or different composition (See column 7, lines 47-50), and coextruded core and the skin layers (See column 7, line 50) are characterized by the absence of PVC (See column 1, lines 17-24; column 3, lines 28-43).

Therefore, Fukushima discloses all material limitations of claimed invention except that:

(1) a concentration of the second polymeric material in the core layer is 2-25%,

(2) an intermediate layer is positioned between the core layer and first or second skin layer and a top layer is positioned on the skin layer.

Sugimoto, as been discussed in the paragraph 9, discloses that two or more intermediate layers can be positioned between the core layer and the skin layer (See column 3, line 7), thereby adding one more layer to the film has (a clear top layer) (See column 3, lines 20-27) for the purpose of providing higher strength or better barrier properties. See column 3, lines 6-17. Sugimoto further teaches that resins of the core layer of a coextruded multilayered film (See column 2, lines 27-29) are selected from those having a high adhesion to skin layers such as polyolefins, ethylene-acrylic acid copolymers, ethylene-methacrylic acid copolymers, ionomers or mixtures thereof when the skin layers are made of polyolefin or polyamide. See column 3, lines 14-27.

One of ordinary skill in the art at the time of applicant's invention was made would have been motivated to add an intermediate layer between the core layer and the skin layer or a top layer on the skin layer to a film of Fukushima, in order to provide higher strength or better barrier properties, as taught by Sugimoto.

It is well known in the art, that adhesion of layers is enhanced if the layers are highly compatible, i.e., have a great affinity, which can be achieved if resins of layers are of the same family; or alternatively, if the layers are of resins of different family adhesion of layers is enhanced by adding an intermediate layer which is highly compatible to adjoining layers, as evidenced by Tolliver (See column 4, lines 60-68;

column 5, lines 1-4). One of ordinary skill in the art would easily recognize that it is conventional in the art to enhance compatibility of the intermediate layer by making the layer from a blend of incompatible resins of the adjoining layers.

Therefore, one of ordinary skill in the art at the time of applicants' invention was made would have been motivated to make a core layer of a film of Fukushima by blending resins (i.e., adding adhesives) such as polyolefins, ethylene-acrylic acid copolymers, ethylene-methacrylic acid copolymers, ionomers, that would be expected to provide good adhesion of the core layer to the skin layers, as taught by Sugimoto and Tolliver.

Although Sugimoto does not expressly show that the amount of a secondary resin added to polyolefin in the core layer is 2-25%, one of ordinary skill in the art would readily determine the percentage of each resin in the core layer through routine experimentation in order to provide good adhesion of the core layer to the skin layers.

Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to optimize the amount of a secondary resin (e.g. 2-25%) added to polyolefin in a core layer of Fukushima in order to provide good adhesion between layers, depending on nature of the skin layers, as taught by Sugimoto.

13. **Claims 21-28, 30, 31-36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin et al (US 5,754,269) in view of Fukushima et al (US 4,542,061).

Benjamin, as been discussed in the paragraph 11, further discloses that a core layer incorporates 0-40% of carboxylic acid modifier. See column 16, lines 16-18. An

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intermediate layer can be positioned between the core layer and skin layer. See column 21, lines 53-67. The thickness of the film is 0.4-10 mils (0.01-0.25mm) (See column 22, lines 8-14), the core layer being about 60% of the overall thickness. See column 61, lines 53-60.

Therefore Benjamin discloses all material limitations of claimed invention except for:

- (1) a density of a polyolefin being in the range of 0.891-0.97 g/cubic cm,
- (2) a concentration of a light stabilizer in each layer being at 1000-20,000 ppm based on the weight of the layer,

One of ordinary skill in the art would easily recognize that: (1) a density of polyolefins conventionally used in abrasion resistant flexible films are in the range of 0.91-0.935 g/cubic cm, and (2) a concentration of a light stabilizer conventionally in used in abrasion resistant flexible films is 500-20,000 ppm based on the weight of a layer, as evidenced by Fukushima. See column 4, lines 12-14; column 8, lines 26-30.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicants' invention was made to use a light stabilizer at a concentration 500-20,000 ppm based on the weight of a layer of Benjamin, as taught by Fukushima.

14. **Claim 41** is rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin et al (US 5,754,269).

Benjamin, as been discussed in the paragraph 11, further discloses that a multilayered tape can be used as a cutting film (See column 30, lines 29-30), the cutting film comprising:

- (a) a core layer comprising polyolefin (See column 21, lines 54, 58) and having opposing major surfaces (See column 29, lines 24, 31-33),
- (b) an abrasion resistant layer on one major surface (See column 29, lines 24, 31-33), and
- (c) an adhesive priming (promoting) layer (See column 21, lines 53-57).

Therefore, Benjamin discloses all material limitations of claimed invention except for the cutting film being cut electronically.

~~One of ordinary skill in the art at the time of applicant's invention was made~~
would easily recognize that the film of Benjamin is cut using a computer.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicants' invention was made to cut the film of Benjamin using a computer.

15. **Claims 37, 38** are rejected under 35 U.S.C. 103(a) as being unpatentable over a combination of Benjamin et al (US 5,754,269) and Fukushima et al (US 4,542,061), and further in view of Freeman (US 4,946,532).

Combination of Benjamin and Fukushima, as been discussed in the paragraph 13, discloses all material limitations of claimed invention except that a release liner is provided with a silicone (polyorganosiloxane) release coating composition overlying a backing layer before applying a pressure sensitive adhesive.

Freeman, as been discussed in the paragraph 8, discloses a release liner of polymeric film (See column 2, lines 12-14) which is provided with a silicone (which is polyorganosiloxane by definition) release coating composition overlying a backing layer

before applying a pressure sensitive adhesive (See Fig. 3A; column 6, lines 12-23) for providing good release action (See column 4, lines 48-57).


One of ordinary skill in the art at the time of applicant's invention was made would have been motivated to use a release coating composition such as a silicone (polyorganosiloxane) release coating composition overlying a backing liner of combination of Benjamin and Fukushima, in order to facilitate removal of a release liner, as taught by Freeman.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicants' invention was made to add a release coating composition such as a silicone (polyorganosiloxane) release coating composition of Freeman to a backing liner of combination of Benjamin and Fukushima.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (703) 605-1171. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (703) 308-42514251. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703) 301-9999 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


HAROLD PYON
SUPERVISORY PATENT EXAMINER
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ET

Elena Tsoy
Examiner
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April 9, 2001